

Grand Staircase-Escalante National Monument

Volume V

BLM

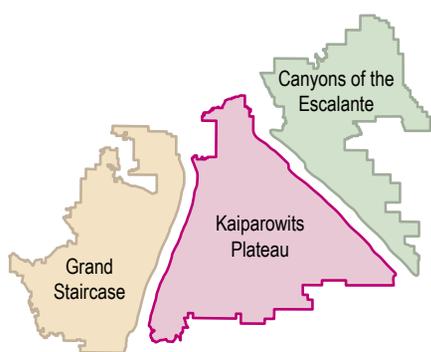


Slickrock above the Escalante River on Highway 12

What is Grand Staircase-Escalante National Monument?

Grand Staircase-Escalante National Monument is a dramatic, multi-hued landscape, rich in natural and human history. Extending across almost two million acres of Utah public lands managed by the Bureau of Land Management, the Monument represents a unique combination of archaeological, historical, paleontological, geological, and biological resources.

These strikingly beautiful and scientifically important lands are divided into three distinct regions: the Grand Staircase, the Kaiparowits Plateau, and the Canyons of the Escalante.



THE GRAND STAIRCASE

This series of great geological steps ascend northward across the southwest corner of the Monument. The Grand Staircase - the Chocolate, Vermilion, White, Gray, and Pink Cliffs - spans five different life zones from high desert to coniferous forests. It is a masterpiece of geological and biological diversity.

Geologist Clarence Dutton described “a grand stairway of sequential cliffs and terraces” in his Report of the Geology of the High Plateaus of Utah (1880).

THE KAIPAROWITS PLATEAU

A vast wedge-shaped block of mesas and deeply incised canyons towering above the surrounding desert, this isolated, rugged plateau is refuge for wildlife, rare plants, and adventure-ready individuals equipped to handle profound solitude and uncompromising wild country. “The Kaiparowits was the name for a point near the north end of the plateau so we decided to call the whole mountain by that name,” wrote professor A. H. Thompson, Chief Geographer of the second Powell expedition. It is a Paiute name meaning “Big Mountain’s Little Brother.” Many sites from prehistoric cultures have been recorded on the plateau. Many more are preserved for future study.

THE CANYONS OF THE ESCALANTE

The Escalante River cascades off the southern flank of the Aquarius Plateau, winding through a 1,000-mile maze of interconnected canyons. This magical labyrinth is one of the scenic wonders of the West. Even though Spanish explorer and priest Father Silvestre Velez de Escalante never wet a boot or even saw the river, his is the namesake given by the Powell survey crew that discovered and named the Escalante River in 1872.

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For EMERGENCIES Call 911

OTHER EMERGENCY NUMBERS:

Kane County Sheriff
(435) 644-2349

Garfield County Sheriff
(435) 676-2678

Glen Canyon NRA Dispatch
1-800-582-4351

Page Hospital
(928) 645-2424

Kane County Clinic
(435) 644-4100

Garfield Memorial Hospital
(435) 676-8811

Upcoming and Ongoing Events

WALKS AND TALKS

New for 2006!

Join a ranger at Calf Creek for a moonlight hike. Discover dinosaur tracks with a paleontologist. Get tips on how to take that perfect photo. Check with one of the visitor centers or on our website for a current schedule!

LEARNING FROM THE LAND SCIENCE SYMPOSIUM

Scientists will share their findings at this symposium which celebrates a decade of scientific research on Grand Staircase-Escalante National Monument.

Dates: September 12-14, 2006

Location: The Hunter Conference Center at Southern Utah University in Cedar City, Utah.

10 YEAR ANNIVERSARY CELEBRATION

September 15-16, 2006

Join us as we celebrate the 10 year anniversary of the Monument. There will be events in the local communities, including presentations, demonstrations, lectures, and family field trips. Check our website or call one of the visitor centers for more information.

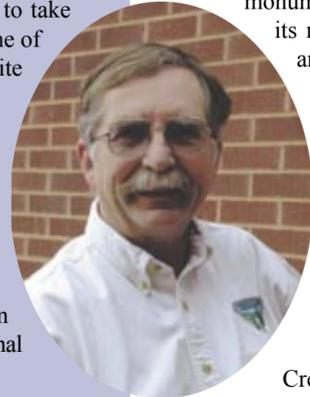
OUTFITTERS AND GUIDES

Want to explore the Monument but not sure about going it alone? Ask at one of the visitor centers, or check out our website, for a list of licensed guides and outfitters. From hiking to fishing you're sure to find a guide with the perfect trip for you.

VOLUNTEER PROJECTS

A variety of volunteer opportunities are available. Contact Grand Staircase Escalante Partners at: 435-644-4688 or www.gsenm.org

More information on upcoming and ongoing events can be found on our website at www.ut.blm.gov/monument or on Grand Staircase Escalante Partners website at : www.gsenm.org



We Share What We Discover

Welcome to Grand Staircase-Escalante National Monument (GSENM), part of Southern Utah's beautiful red rock country. I hope you share as many fond memories of these public lands with your friends and family as I have with mine. Long before GSENM was a national monument, I was drawn to the area by its mild climate, scenic landscapes, and remote character. I hoped someday I would be able to work in this region during my career with the Bureau of Land Management (BLM). In 2001, I got my chance. Though still inspired by its primitive beauty, I have since learned that there is much more to GSENM than meets the eye.

Created in 1996 in recognition of its outstanding scientific and historic resources, GSENM has become an outdoor laboratory attracting scholars from all over the United States. Scientists have uncovered dinosaur fossils that are found nowhere else on earth, 8,000 year-old archaeological sites, 600 different species of bees, and geological

formations that suggest the past existence of water on Mars. These and other research efforts conducted on GSENM are helping to uncover valuable new information about our planet, even our universe, and we still have much to learn.

What we are discovering, we are sharing. Through our outreach and volunteer programs, the public is gaining greater awareness and appreciation for the health and diversity of our world's natural resources, and the life that depends on them. I invite you to take advantage of these opportunities by stopping at our visitor centers to enjoy their excellent interpretive exhibits and educational programs.

I'm very proud of GSENM's accomplishments and believe we have plenty to celebrate for our 10th Anniversary and 100th Anniversary of the Antiquities Act. Though GSENM was BLM's first national monument, it is only one of many special areas managed by BLM. During this celebration year, I encourage you to seek out and explore these public lands with your family and friends.

Dave Wolf
Acting Monument Manager

The Antiquities Act Centennial

At just 296 words, the Antiquities Act, approved June 8, 1906 by President Theodore Roosevelt, provides a legacy for all Americans. The Antiquities Act made it illegal for any person to appropriate, excavate, injure, or destroy any historic or prehistoric ruin or monument, or any object of antiquity, situated on lands owned or controlled by the Government of the United States, without permission and appropriate qualifications. The year 2006 marks the centennial of historic preservation enabled by the Antiquities Act. It also presents the perfect occasion to promote "citizen stewardship."

The Antiquities Act also authorized the President to declare special areas of public land as national monuments in order to protect objects of scientific or historic value.

The 1996 presidential proclamation for Grand Staircase-Escalante National Monument acknowledges that the "vast and austere landscape embraces a spectacular array of scientific and historic resources. This high, rugged, and remote

region, where bold plateaus and multi-hued cliffs run for distances that defy human perspective, was the last place in the continental United States to be mapped. Even today, this unspoiled natural area remains a frontier, a quality that greatly enhances the Monument's value for scientific study. The Monument has a long and dignified human history; it is a place where one can see how nature shapes human endeavors in the American West, where distance and aridity have been pitted against our dreams and courage. The Monument presents exemplary opportunities for geologists, paleontologists, archeologists, historians, and biologists."

Cultural inventories of the 17.2 million acres of public lands suggest that upwards of four million cultural resources may be present on BLM lands across the nation. Each and every user of public lands is responsible for protecting and preserving our nation's cultural legacy.

Marietta Eaton
Science Program Administrator

VISITOR CENTERS: Staffed visitor centers are located in Big Water, Kanab, Cannonville, Escalante, and Boulder (at Anasazi State Park Museum). Maps and books are sold at all locations.

VEHICLE TRAVEL: The easiest way to see the Monument is by vehicle. Highways 12 and 89 run along the north, south, and west boundaries and offer outstanding views. High clearance vehicles are recommended for most dirt roads and many require 4-wheel drive. Conditions can change quickly after storms. Check at a visitor center before driving on unpaved roads.

MOUNTAIN BIKING: Bicycles are only permitted on designated dirt roads. Visitor center staff can help you choose rides to fit your time and ability.

OFF HIGHWAY VEHICLE (OHV) USE: Off-highway vehicles are permitted within the Monument on designated roads. Cross-country travel is prohibited and OHVs are not permitted on hiking trails. Check at a visitor center for maps and information before riding.

BACKPACKING: One way to see and enjoy the vast backcountry of the Monument and adjacent Glen Canyon National Recreation Area is to spend several days hiking. Most routes are unmarked and traverse a wide variety of canyon and slickrock terrain. Visitor center staff can help you choose routes that fit your time and ability. Stop at a visitor

center for route descriptions, maps, locations of water sources, weather forecasts, and current road conditions before starting out. A free backcountry permit is required. Map and compass skills are recommended.

DAY HIKING: There are many options for day hikes within the Monument. Most are unmarked routes. Check at a visitor center for suggestions.

CAMPING: There are numerous public and private campgrounds in the area. Dispersed car camping is permitted in some areas within the Monument. A backcountry permit is required. Check at a visitor center for camping options. Campers must follow the Leave No Trace principles found on page 11 of this newspaper. Campfires are not allowed in the canyons.

HUNTING, FISHING, AND TRAPPING: These activities are permitted in the Monument and are regulated by the Utah Division of Wildlife Resources.

PERMITS: Free backcountry permits are required for ALL overnight stays (backpacking, car camping, horse packing, and kayaking). Obtain a permit at any visitor center or self-register at many of the trail head register boxes.

CELL PHONES: Cell phones do not work in many areas in and around the Monument.

Weather

☀️ SPRING (MARCH-MAY):

Days are warming up and hiking is comfortable with light layers of clothing added or removed as the temperature changes. Weather is unpredictable, and rain/snow is possible. Nights can be cold. Dirt roads may be muddy and passable only with a 4-wheel drive vehicle. Some drainages may flood due to snow melt. Spring wildflowers are in bloom. Campgrounds can fill up early and backcountry use is high.

☀️ SUMMER (JUNE-AUGUST):

Temperatures can exceed 100 degrees F (37 degrees C). The thunderstorm season, generally July through September, often causes flash floods. Night time temperatures are pleasant. Sunscreen, light weight clothing, a hat, and lots of water are a must. Mid-day hiking should be done in moderation. Deer flies and gnats can be bothersome. Many dirt roads become heavily washboarded, and can be slick or impassable after heavy rains.

🍁 FALL (SEPTEMBER-NOVEMBER):

Daytime temperatures start to cool down by late September, which makes hiking pleasant through October. Expect cool nights. Thunderstorms and flash floods are possible. Barring recent rains, many dirt roads are usually passable without 4-wheel drive. Autumn color displays begin in September in the high country while colors in the desert usually peak in October. Campgrounds can fill up early and backcountry use is high.

❄️ WINTER (DECEMBER-FEBRUARY):

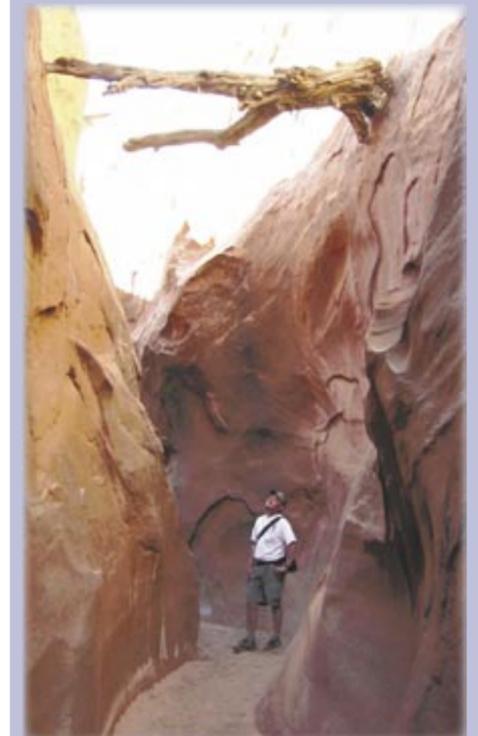
Desert areas are occasionally covered by snow. High country areas may be covered by deep snow until spring. Dirt roads may be slick and impassable or require high clearance 4-wheel drive. Paved roads may be snow covered and icy. Many campgrounds, motels, restaurants, and services are closed. Visitation is low.

Flash Flood! An Unexpected Danger

Visitors need to be aware of potential flood conditions and take necessary precautions including:

- Stop at a visitor center to obtain current weather forecasts, monitor weather conditions, and be alert for changing conditions.
- Do not enter a wash, canyon, or slot canyon if a storm is threatening.
- If it is raining hard but the wash is not flowing, begin to hike out.
- If the wash begins to flow, climb to high ground.
- Remain on high ground until the water recedes.
- Never camp in wash bottoms.

Respect the force of nature. Flash floods can be strong enough to carry away vehicles.



*Hiker in a slot canyon,
a high-risk flood zone*

Where to go and what to do if you have:

An Hour Or Two

In the Escalante-Boulder Area

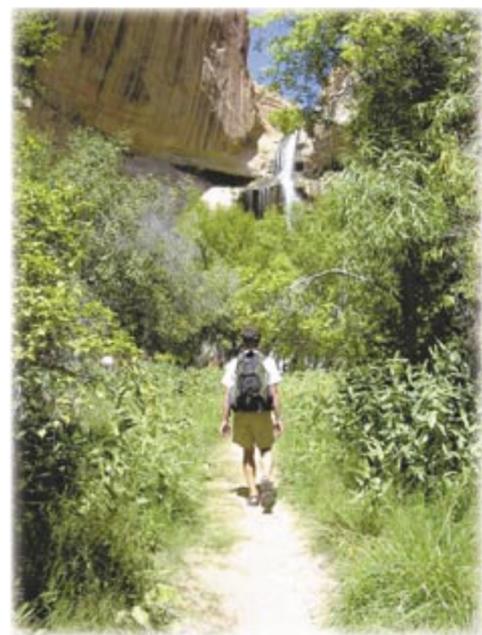
• **HIGHWAY 12 BETWEEN THE TOWNS OF ESCALANTE AND BOULDER**--This 28-mile drive (one way) is one of the most scenic drives in the Monument. Incredible vistas and pullouts with interpretive panels located along the road.

• **CALF CREEK RECREATION AREA**--Picnic, hike, relax, or bird watch. Located 15 miles east of Escalante on Hwy 12.

• **DEVIL'S GARDEN**--off the Hole-in-the-Rock Road. A land of sculptured slickrock and hoodoos waits at the end of your drive. Located 13 miles one way on a dirt road, passable to 2-wheel drive.

• **HELL'S BACKBONE ROAD**--45 miles one way on a gravel road, passable to 2-wheel drive. The road begins on 300 East in Escalante or two miles west of Boulder on Hwy 12. The signed road climbs into the high country of Boulder Mountain in the Dixie National Forest. Stop at the one-lane bridge for outstanding views of Death Hollow and Sand Creek.

• **ESCALANTE PETRIFIED FOREST STATE PARK**--One mile west of Escalante on Hwy 12. Short trails lead to scenic views and large petrified logs.



Hiker on the Lower Calf Creek Falls trail

• **ANASAZI STATE PARK MUSEUM**--on Hwy 12 in Boulder. Visit the museum and wander through pueblos of the Coombs site, an Anasazi village over 800 years old.

In the Big Water-Kanab Area

• **THE TOADSTOOLS**--Access is off of Hwy 89, 1.5 miles east of the Paria Contact Station, 45 miles east of Kanab, or 12 miles west of Big Water. A 1.5 mile round trip hike leads to colorful hoodoos and balanced rocks.

• **PARIA MOVIE SET**--Drive to the movie set and picnic area or hike across the Paria River to the historic Pahreah town site (2.5 miles round trip). Located 31 miles east of Kanab on Hwy 89 near mile post 21, then five miles north by dirt road.

In the Cannonville Area

• **KODACHROME BASIN STATE PARK**--Nine miles south of Hwy 12 in Cannonville on a paved road. Sandstone spires in a colorful setting inspired National Geographic photographers to name this area "Kodachrome."

• **GROSVENOR ARCH**--17 miles south of Hwy 12 in Cannonville via a combination of paved and dirt roads, passable to 2-wheel drive, when dry. This is a large, unique double arch.

• **WILLIS CREEK**--Access is off Skutumpah Road. A short hike down the canyon leads to a beautiful section of narrows. Ask at a visitor center for route information.

Half A Day

In the Escalante-Boulder Area

• **LOWER CALF CREEK FALLS**--15 miles east of Escalante on Hwy 12. A six-mile round trip hike leads to the spectacular 126-foot lower falls. The hike is moderate and takes average hikers three to four hours. Dogs must be leashed.

• **PEEK-A-BOO AND SPOOKY**. These narrow slot canyons are located off Hole-in-the-Rock Road. Stop at one of the visitor centers for directions before heading to these canyons. Dogs are not recommended.

• **BURR TRAIL ROAD**. The paved portion of the road begins in Boulder and runs 30 miles to the boundary of Capitol Reef National Park. Beyond the park boundary, the road is dirt for most of the remaining 42 miles to Bullfrog

Marina in Glen Canyon National Recreation Area. Portions of the dirt road often require a high clearance vehicle. A wide variety of scenic vistas and colorful canyons await those who choose to travel this route.

In the Kanab Area

• **LICK WASH**--Access is off Skutumpah Road. Stop at a visitor center for directions and route information. This is a moderate hike in a narrow canyon.

All Day

In the Escalante-Boulder Area

• **HOLE-IN-THE-ROCK**--57 miles one way, 4-wheel drive required. Mormon pioneers built a wagon route down the cliff to the Colorado River at this location. Today you can hike this historic route to Lake Powell in Glen Canyon National Recreation Area. Be sure to save some energy for the strenuous and challenging 600 foot climb back up! Allow two hours for the hike and take plenty of water.

• **WOLVERINE LOOP ROAD**--25 miles one way, high clearance recommended. Access is off the Burr Trail Road. Great views and large petrified logs. Allow several additional hours if you plan to hike into the petrified wood area.

In the Cannonville-Kanab Area

• **COTTONWOOD ROAD**--46 miles one way from Hwy 12 to Hwy 89 on a dirt road, passable to 2-wheel drive when dry. Spectacular views along the uplift of the East Kaibab monocline, locally called "The Cockscomb."

• **SKUTUMPAH ROAD**--48 miles one way from Cannonville to Hwy 89 via Johnson Canyon, paved 16 miles and dirt 32 miles, often requires high clearance vehicles. The road offers a variety of canyon views and dramatic vistas.

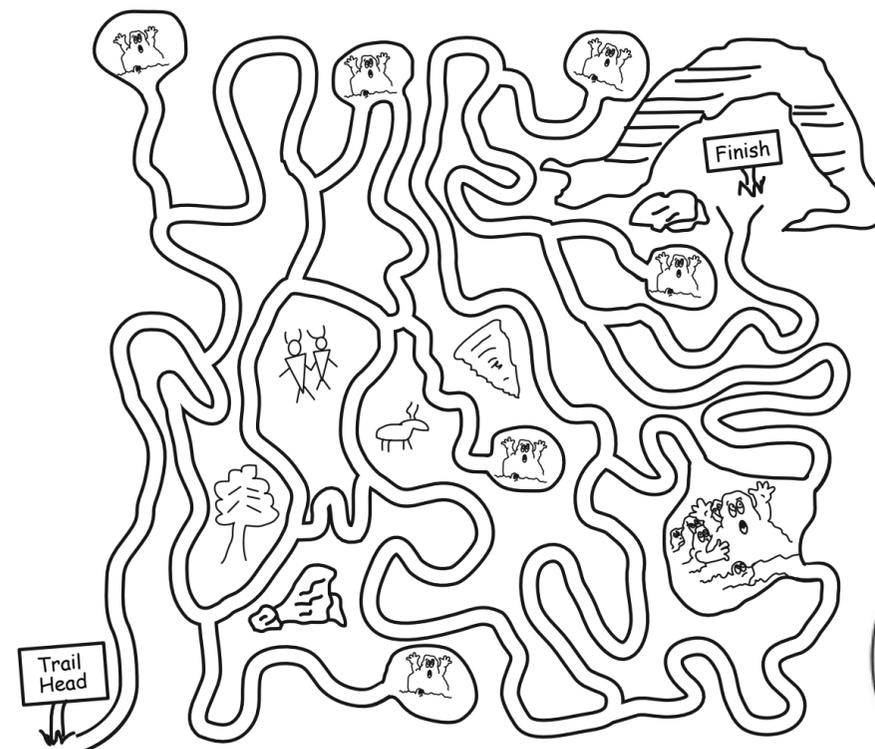
Several Days

• Combine day trip options to suit your time, travel route, and interests.

• Backpack into remote areas of the Monument to enjoy spectacular desert vistas, endless slickrock, narrow canyons, and rare solitude. Visitor center staff can help you pick a route that meets your abilities. Free backcountry permit required.

Tip-Toe Through the Crypto

There are many fun and interesting things to see and visit at Grand Staircase-Escalante National Monument. Rock art, natural bridges, arches, waterfalls, and ancient Native American ruins are all waiting to be discovered by curious hikers. Finding these sites requires hiking through desert landscapes covered in fragile soil crusts. These crusts, called cryptobiotic soil, are alive and are made up of many types of fungi, moss and lichen. Cryptobiotic soil crusts are important because they hold moisture, prevent erosion, and help other plants grow. They are also easily damaged if stepped on and it can take many decades for them to recover. It is best to hike on established trails or in sandy washes, on slickrock, and along animal trails to minimize the damage to cryptobiotic soil. Before you head out on the trail, see if you can complete the maze below and find your way to the arch without stepping on any cryptobiotic soil.



Hey Kids!

Discover the hidden mysteries of the Monument.
Check out a Discovery Pack from one of the visitor centers.



Discovery packs can be checked out for the day from any of the Grand Staircase-Escalante National Monument visitor centers.

They have all kinds of cool tools to help you discover new things during your visit. With the binoculars, watch a condor soar in the sky. Examine cryptobiotic soil through the hand lens. Record or sketch your discoveries in the journal like a real scientist. And most of all:

HAVE FUN and LEARN A LOT!



Watch Your Step!

Cryptobiotic soil is the dark bumpy-looking soil often seen in canyon country. Of significant ecological importance, the crust is a living community of cyanobacteria, mosses, lichens, green algae, microfungi, and bacteria. Cyanobacteria, the most important component, produce glue-like filaments that bind soil particles and make the crust more resistant to erosion. Cyanobacteria captures nitrogen from the air while calcium, potassium, and manganese bind with the filaments. These nutrients are converted to a form that other plants can use, serving as a fertilizer. The crust expands when wet, retaining moisture. Soil crusts provide stability, nutrients, and moisture that benefit nearby plants. In this harsh, dry environment, plants need all the help they can get!

Dry soil crusts are easily broken. Stepping on a well developed patch destroys decades of growth. Bicycle and vehicle tracks leave long strips of damaged crust prone to wind and water erosion. Loose soil from damaged crust can blow onto undamaged crusts nearby and prevent them from receiving sunlight. Without sunlight, crust cannot photosynthesize and will die. Unstable soils lead to drifting sand dunes and little vegetation.

Damaged crusts can recover, but it may take 50 to 250 years to become fully functional again. To preserve this unique resource, please remain on designated roads, trails, and routes. When walking cross country, stay on rock surfaces or in washes. Please watch where you step and don't bust the crust!

For more information on soil crusts check out the exhibit at the Escalante Visitor Center.



Scenic Roads

Many dirt roads in the Monument traverse areas where bentonite clay is common making them impassable when wet. Check with a visitor center for current conditions before driving on any unpaved road.

SCENIC BYWAY 12

One of the most spectacular roads in the country, Hwy 12 stretches 124 miles across a landscape ranging in elevation from 4,000 to 11,000 feet and serves as the main artery through one of the most rugged regions of the Colorado Plateau. The dramatic vistas and colorful canyons along the 28-mile section of road between the towns of Escalante and Boulder are a highlight. There is a 14% grade along this road.

BURR TRAIL

Colorful Long Canyon, with its high red walls and close-up views of the Circle Cliffs and Waterpocket Fold, amazes travelers along the 30 miles of paved road east of Boulder. Those with high clearance vehicles can continue into Capitol Reef National Park or on to Bullfrog Marina at Lake Powell along dirt roads beyond the Monument.

HOLE-IN-THE-ROCK

Following the original route of Mormon pioneers for 57 miles, the road ends at historic Hole-in-the-Rock. Much of the dirt road is passable to passenger vehicles, however the last 7 miles always require high clearance 4-wheel drive. Allow 7-8 hours to go to the end of the road and back.

SMOKY MOUNTAIN

This 75-mile long road offers far-reaching views from the top of the Kaiparowits Plateau and crosses the most rugged and remote section of the Monument. The trip takes 4-5 hours and is only passable to high clearance vehicles. Impassable in winter.

HIGHWAY 89

Grand views of the brilliant Vermilion Cliffs can be seen along the 72 miles between Page, Arizona and Kanab, Utah. Sections of the White and Gray Cliffs, also part of the Grand Staircase, are visible north of Kanab.

COTTONWOOD

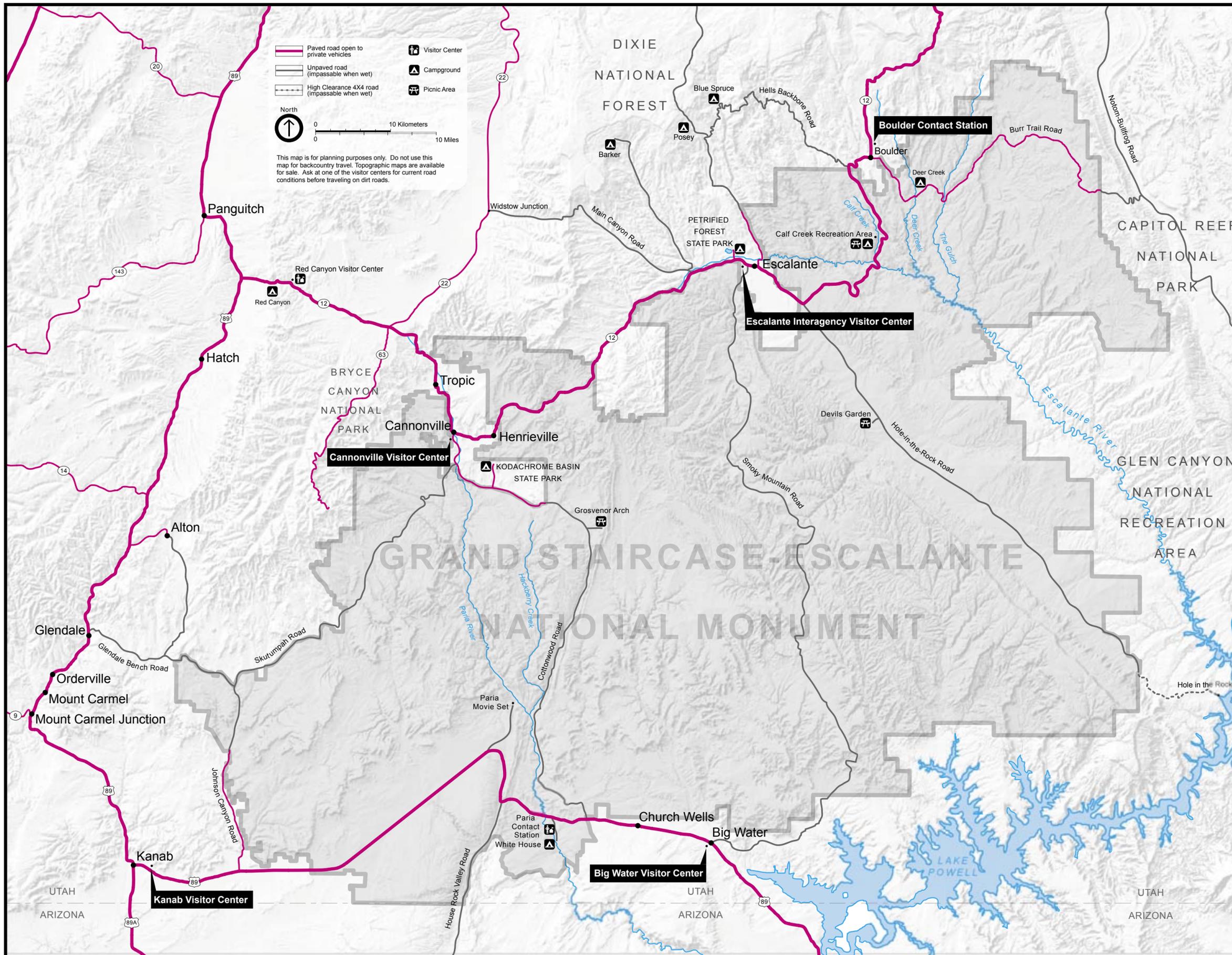
The 46 miles between Hwy 89 and Hwy 12 offer dramatic views as the road parallels a prominent geologic feature called the East Kaibab Monocline, or "Cockscomb." This unpaved road is normally passable to passenger cars, but should not be attempted when wet. The route usually takes 2 hours.

JOHNSON CANYON AND SKUTUMPAH

Pastoral scenes and intriguing sandstone cliffs can be seen along the 16 miles of paved road in Johnson Canyon. Enjoy views of the pink cliffs of Bryce Canyon while traveling below the rim on the unpaved Skutumpah Road. The 32 miles of dirt road can be rough and is often impassable when wet. Allow 1 1/2-2 hours for this route.

HOUSE ROCK VALLEY ROAD

Gently rolling hills of grasslands and pinyon-juniper woodlands can be seen along the 30 miles of dirt road. This road cuts between Hwy 89 and Hwy 89A and is an access to Buckskin Canyon, Wire Pass, and Coyote Buttes. Call 435-644-4600 for more information.



Interview With Our Archaeologist Matt Zweifel

How did you become interested in Archaeology?

When I started college at Oregon State University I didn't really know what I wanted to do. After a couple years I decided to major in Anthropology. It wasn't until I took an archaeology field course that I realized archaeology (a sub-discipline of anthropology) was where my true interests lay. I spent several years working in the northwest, went to graduate school at Washington State University, and then worked for several more years in the northern Rocky Mountains before moving to Utah and getting my present position with the BLM.

What's your favorite part of this job?

Field research has always been my favorite. Whether it's an excavation or an inventory of unknown areas in the Monument, all the little pieces we find help complete the bigger picture of human use of this landscape over the past 11,000 years.

How can I become an Archaeologist?

Volunteer with local archaeologists; take anthropology and archaeology classes in college and get a seasonal job. Field experience will help you decide what you want to do. There are many paths in the field: artifact analysis, paleoclimatology, prehistoric architecture, geoarchaeology, and analysis of biological remains to name only a few.

What are the next projects for you?

The recent discovery of a Clovis point is a significant find! We will dig test pits with volunteers and, if warranted, conduct more extensive excavation. We routinely inventory prior to ground-disturbing projects to protect cultural resources. We would also like to expand our research program designed to inventory non-project areas in an effort to characterize the archaeology in areas we've never examined before.



GSENM Archaeologist Matt Zweifel

Lost by one early explorer, a small but very valuable treasure was found thousands of years later by another. Early in the spring of 2005, Garfield County resident David Holladay was hiking in the Escalante region of Grand Staircase-Escalante National Monument (GSENM) and happened upon an extraordinarily rare Clovis spear point estimated at 10,000 to 11,000 years old.

Named for Clovis, New Mexico where the first artifacts of this kind were identified in 1932, the Clovis people were a Paleo-Indian culture first appearing in North America around 13,500 years ago towards the end of the last Ice Age. Though Clovis sites have been identified throughout much of the continental United States they remain rare, and only one other Clovis point has ever been discovered in the Rocky Mountain region.

Recognizing the importance of this particular artifact, Holladay left the point where he found it to preserve the context of the site. He reported his discovery to GSENM Science Administrator, Marietta Eaton, who could hardly believe the news. According to Matt Zweifel, GSENM Archaeologist, until now the earliest artifacts found on the Monument near Big Water, Utah were from the Archaic period dating back 8,000 years. "It's an exciting find and somewhat of a mystery," he stated.

It seems the point was made from stone not present on the Monument. "It looks like it was manufactured somewhere else," said Zweifel, "Maybe in the Great Basin or elsewhere on the

Colorado Plateau, and carried into this part of the world." According to Zweifel, the point could have been used and dropped by a roaming band of Paleo-Indians, only to be found and recycled by people from the Archaic period, later groups such as the Fremont or Anasazi who populated the area from 400 to 1200 A.D., or by nomadic Paiute tribes who lived in the region from around 1200 A.D. to present.



This scenario is not unlikely given that a well-crafted Clovis point like the one found on GSENM could mean the difference between survival and starvation in a harsh environment. The Clovis point's sharp blade was formed through a highly skilled process called flintknapping that combines percussion and pressure flaking the stone. Edges at the bottom of the point were then ground smooth to prevent the blade from cutting through the attaching sinew. It's maker then flaked a central groove or flute along both faces of the point, allowing it to be more easily hafted (attached) onto the end of a short wooden spear. The result was an efficient, effective, and extremely prized weapon.

Eaton agrees the Clovis point is a significant find. "It's spectacular and so petite for a Clovis point," she said. "It's exciting to think that people were here that long ago." The Clovis point is on display in the Anasazi State Park Museum in Boulder, Utah.

Mary Dewitz
Visitor Center Manager

Photo by Chris Eaton
(Photo not to scale)

Protecting Clues of the Past

Archaeological, historical and paleontological sites are an important part of the legacy of Grand Staircase-Escalante National Monument. Feel free to observe and marvel at these treasures. Take photographs, draw pictures, think about the people and creatures who lived here so long ago. If these sites are respected by all who visit them, they will be preserved for future generations to learn from and appreciate.

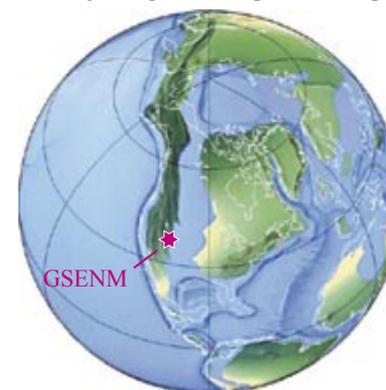
1. Please do not touch rock art. Take photos instead! Take time to ponder their meanings...
2. Removing artifacts or fossils from their original locations destroys their context and scientific value (feel free to look and photograph, but return them to the exact location where you found them). Remember that petrified wood is also protected by law.
3. Walking, climbing, sitting or standing on any architecture, rock alignments, middens, or other cultural features can cause irreparable damage.
4. Do not drive through cultural or paleontological sites with mechanized vehicles or bicycles. Also, avoid riding horses or herding livestock through these sites.
5. Keep pets away from cultural and paleontological sites; they can cause irreparable damage by digging or defecating in them.
6. Leave the site in the same condition as you found it so others may enjoy it too!

When Brigham Young first laid eyes on Utah and declared "This is the place," he probably didn't realize he was also speaking for dinosaur paleontologists who would arrive 100 years later. In fact, work done in Utah over the last thirty years indicates that the state may give us one of the most complete glimpses into dinosaurs and their time than any other single region on the planet.

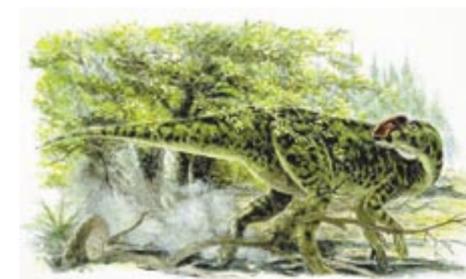
Most of the chapters in this fascinating volume of earth history, known as the Mesozoic, were recorded faithfully in rock pages written in the mud, sand, and gravel that accumulated in the interior of the state, 65 million to 250 million years ago. Trapped within those rock layers are fossilized remains of plants and animals that flourished there eons ago. As paleontologists study Utah's fossils, and the rocks that contain them, they are painting an ever clearer picture of North America during the age of the dinosaurs.

The Monument's biggest contribution to this unfolding story comes from rocks that date to between 65 million and 100 million years ago, a time known as the Late Cretaceous. During the Late Cretaceous, much of Utah lay near the edge of a great inland sea in a low elevation coastal setting where dinosaurs and other animals thrived. Rock layers exposed today in rugged benches and canyons of the Kaiparowits Plateau yield a wealth of bone fossils that represent species not found anywhere else in the state, or the world for that matter. Some of the fossils found in Grand Staircase-Escalante National Monument are so well preserved they even show impressions of the skin and claws of these magnificent beasts!

Hundreds of species have been documented and collectively the record has turned out to be one of the best in the world for the Late Cretaceous. In the last five years, paleontologists working in and



Cretaceous Inland Sea
65-100 million years ago



Artist interpretation of *Gryposaurus*

around the Kaiparowits have documented at least nine new species of dinosaurs and numerous new species of other animals from fish to mammals. Highlights include finding the oldest known Caiman (alligator-like reptile), the oldest known Gila Monster, two new species of *Triceratops*-like horned dinosaurs, and two perfectly complete skulls of a new species of duckbilled dinosaur known as *Gryposaurus*.

The year 2006 looks to be a benchmark year for the Monument: In February, publication of a scientific article made official the first new dinosaur genus and species ever to be named from the Kaiparowits region. The new form, called *Hagryphus giganteus* (or giant west desert griffon) is a large 13-foot long oviraptor; a toothless cousin of the more famous *Velociraptor*. *Hagryphus* is one of the largest known species of oviraptor in the world, and its presence in southern Utah is a huge range extension for the family in North America. Previously described species were all from north of the Black Hills in South Dakota.

These conclusions are born out of the sweat of hard physical labor in both field and lab. Every summer, paleontologists representing up to 12 different academic institutions and museums, as well as BLM's own paleontology crew, descend on the Kaiparowits Plateau to learn more about our planet's history and help solve other unsolved dinosaur mysteries. Conditions are generally hot, and in July and August, thunderstorms threaten many days. Excavation of a dinosaur and the painstaking process of gathering all of the scientific data that accompanies such a find are both tedious and physically exhausting. But the work has its own rewards. At the end of the day, the crews know their efforts will advance knowledge of our planet's past, and perhaps gain insights into our future.

Dr. Alan Titus
Paleontologist

Interview With Our Paleontologist Alan Titus

How did you become interested in Paleontology?

I knew I wanted to be a Paleontologist from about the age of six. My father had a fossil collection and I took trilobites to show-and-tell in the first grade. I got my B.S. at University of Nevada Las Vegas and my Masters at the University of Arkansas, where I developed my taste for catfish and hushpuppies, then I earned my PhD at Washington State University. In 1999 I was hired to do the first paleo surveys of Grand Staircase-Escalante National Monument (GSENM).

What are your most exciting discoveries?

My favorite was finding a tiny, 75 million-year old mammal jaw, complete with teeth. One time I was walking and literally stumbled over bones and teeth along a well-trodden path. It was one of the first non-crested hadrosaur skulls ever found on the Monument!

What's your favorite part of being out on a dig?

It is a succession of paradoxes, exciting and tedious at the same time. We excavate microscopic animals to huge dinosaurs. The anticipation of discovery builds as you uncover each new bone and try to figure out how this animal died here eons ago.

How can I become a Paleontologist?

Develop a passion for it! Find out about volunteering and internships. Keep your grades up; the field is very competitive. You need a PhD if you want to do the sort of research that I do.

What are the next projects for you?

I would like to see the Monument become a global reference for the last 30 million years of the dinosaurs. My objective is to entice researchers, universities and partnerships into continuing work on this fascinating chapter in Earth's history, the twilight of the dinosaurs.



GSENM Paleontologist Alan Titus

Unidentified Objects Sited at GSENM!

As you explore Grand Staircase-Escalante National Monument (GSENM), BEWARE! --- you may encounter some strange-looking devices out there. Don't worry. What appear to be alien landing craft are actually equipment used to monitor weather conditions and stream flows. These monitoring stations are an important part of ongoing research to understand climatic and hydrologic conditions affecting the Monument's natural resources. Studies include the dynamics of plant communities and water quality in popularly visited canyons. Weather and stream flow data also helps predict flash floods to assist visitors in planning hiking or boating trips.

Climate stations consist of sensors used to measure solar radiation, air temperature, relative humidity, wind speed, and precipitation, as well as soil temperature and moisture content. Due to their remote locations, the stations must be powered by small solar panels and equipped with a lightning rod -- just in case! Cellular phones are used to relay data to GSENM Headquarters for further analysis.

Gauging stations continuously measure flows near the mouths of major streams and at sites selected to provide information about hydrologic processes. Some of these gauging stations have been maintained by the U.S. Geological Survey for decades; others were recently installed by GSENM. Data collected from these stations helps scientists decipher effects of climatic fluctuations, and also provides a baseline for understanding the rate and location of groundwater inflows (water that sustains year-round stream flows).

Please do not disturb any monitoring equipment. If disturbed, data quality is compromised, or lost completely. Information on data collected at these monitoring stations can be found on the GSENM web site at www.ut.blm.gov/monument.



Habitat Restoration

Giving native plants a new lease on life, Grand Staircase-Escalante National Monument (GSENM), in partnership with the Utah Division of Wildlife Resources and Utah Partners for Conservation and Development, completed a two year Landscape Assessment of a portion



Assessing conditions of vegetation communities and wildlife habitat on Buckskin Mountain.

of Buckskin Mountain. The purpose of this assessment was to evaluate current conditions of vegetation communities and wildlife habitat; and recommend a land management plan that would increase the diversity of native plants; create a mosaic of vegetation across the landscape; reduce the threat of large wildfires; and maximize benefits to native wildlife habitat.

Late in the fall of 2005, the plan was put into action. Dense stands of pinion-juniper were thinned on 880 acres of Buckskin Mountain, located between Kanab, Utah and Page, Arizona. As a result, standing fuel levels have been reduced and space opened up for indigenous plants to grow and thrive. In the near future, thinning will begin on an additional 100 acres. Approximately half the treated area has already been seeded with a mixture of native shrubs, forbs, and grasses, increasing forage for wildlife and livestock.

Wildlife Reintroduction

Offering plenty to eat and room to roam, Grand Staircase-Escalante National Monument (GSENM) is giving several animal species a chance to rediscover the same landscapes where their ancestors once lived. Through its reintroduction program, GSENM has relocated pronghorn, otters, and Big Horn sheep from other western states back into historic ranges within the Monument. While all these native species are doing well in their new surroundings, the pronghorn have really made themselves at home.

In 1999, the first pronghorn were reintroduced to GSENM into what is termed the Kaiparowits Unit, consisting of state and federal lands on either side of Highway 89. At the time there were only around 75 animals. Since then, their numbers have doubled and the Utah Division of Wildlife Resources (UDWR) now considers the pronghorn to



Pronghorn reintroduction on the Kaiparowits Unit.

be an established and stable herd. According to Harry Barber, Assistant Monument Manager for Resources, "The pronghorn have been very successful. So much so, that the UDWR is authorizing permitted hunting of six bucks on the Monument next fall (2006)." It seems the pronghorn are here to stay.

Leave No Trace

Every year, millions of recreationists venture outdoors to take advantage of America's vast system of public lands. These experiences in the outdoors can be personally satisfying. However, our presence in these natural areas can be costly to the places we visit, the creatures who live there, and those who come after us as we leave our impact on the landscape. We can prevent our natural areas from being "loved to death" by learning and following minimum impact techniques. Knowledge of simple minimum impact methods empowers us with a practical means of caring for public lands.

Leave No Trace is a stewardship program that provides us with low impact techniques to enjoy our public lands with the satisfaction of "leaving no trace." Please follow the seven principles below and share a commitment to maintain and protect our natural areas for future enjoyment. Additional information on Leave No Trace is available at our visitor centers and at www.lnt.org.

Plan Ahead and Prepare

- Know the regulations and special concerns of the area.
- Prepare for extreme weather, hazards, and emergencies.
- Use a map and compass to eliminate the need to mark trails.

Travel and Camp on Durable Surfaces

- **In high use areas:** Hike on existing trails or routes and camp in previously disturbed campsites.
- **In pristine areas:** Hike and camp on resistant surfaces like slickrock and gravel.
- Avoid stepping on vegetation and cryptobiotic soil.
- Keep campsites small and at least 200 feet from streams and rivers.

Dispose of Waste Properly

- Pack out what you pack in: trash, leftover foods, toilet paper, and hygiene products.
- Repackage foods before the trip to minimize waste.
- Deposit human waste in holes 6-8 inches deep at least 200 feet from water, camp, and trails.
- Even better, pack out your poop! Ask a ranger to learn how.

Minimize Campfire Impact

- In the backcountry, use a gas stove for cooking and a lantern for light.
- Fires are NOT permitted in the Escalante, Paria, or Hackberry drainages or on No Man's Mesa.
- Where fires are permitted, keep fires small, bring a fire pan or use established fire rings.
- Burn all wood and coal to ash.
- Put fires out completely.

Respect Wildlife

- Never feed animals. It damages their health and alters natural behaviors.
- Pets can harm wildlife. Do not allow pets to chase wildlife; use a leash if necessary.
- Avoid wildlife at sensitive times: mating, nesting, raising young, or during extreme weather conditions.

Be Considerate of Other Visitors

- Respect others and protect the quality of their experience.
- Let nature's sounds prevail. Keep noises to a minimum.

Leave What You Find

All resources in the Monument are protected. This includes artifacts, fossils, rocks and plants. Please do not remove or tamper with these resources. Even lightly touching rock art is damaging. Leaving things where they are helps tell their story and insures that future generations can enjoy them too. But DO take pictures!



Grand Staircase Escalante Partners

WHO WE ARE

The official support organization for Grand Staircase-Escalante National Monument (GSENM). We are committed to educating and inspiring people to get involved with the Monument by contributing time, money, or simply helping spread the word.

OUR JOB IS TO

- Increase public awareness and understanding about the Monument
- Expand our membership
- Recruit and provide volunteers
- Provide resources to help support scientific, interpretive, and educational programs

The BLM's National Landscape Conservation System offers some of the most remarkable landscapes found on public lands in the American West, and we believe the Monument is the most remarkable of them all! We invite you to discover, share and protect GSENM.



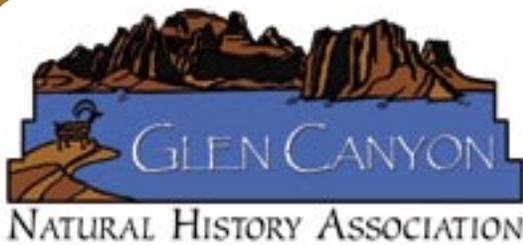
Interested in volunteering? We encourage volunteering at any level. Volunteers may be individuals, groups or clubs. Indoor projects include visitor center, office and lab support. Outdoor projects on the Monument range from trail work to providing support to ongoing science programs including field work in archaeology, paleontology and botany.

Please join. We are a 501(c)(3) non-profit organization.

Membership Levels:

Grand Staircase \$20
Cottonwood Canyon \$35 (Family)
Kaiparowits Plateau \$100
Paria Canyon \$200
Escalante Canyon \$500
Monument \$1000

www.gsenm.org

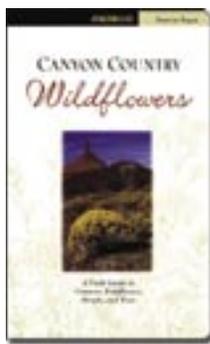


GLEN CANYON NATURAL HISTORY ASSOCIATION IS A NON-PROFIT ORGANIZATION DEDICATED TO EDUCATION, INTERPRETATION, AND RESEARCH WITHIN GRAND STAIRCASE-ESCALANTE NATIONAL MONUMENT, GLEN CANYON NATIONAL RECREATION AREA, AND RAINBOW BRIDGE NATIONAL MONUMENT. WE OPERATE THE NATURAL HISTORY STORES AT VISITOR CENTERS THROUGHOUT THESE PUBLIC LANDS; PROCEEDS FROM SALES ARE USED TO HELP FUND RESTORATION, RESEARCH, AND EDUCATIONAL PROJECTS.

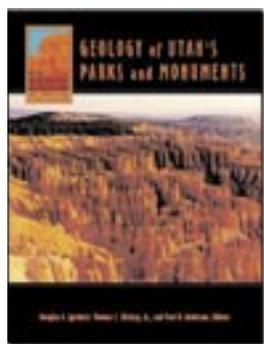
Glen Canyon National Recreation Area, along with the surrounding public lands on the Colorado Plateau, provide millions of square miles to explore with a sense of wonder – A roadside field of flowers can bring a road trip to a halt faster than an elk crossing the road; Spectacular geological formations that dominate the landscape around the bend in the road; A condor soaring high above, circling on the updrafts of a cliff. These sights raise questions that a field guide would answer and Glen Canyon Natural History Association can help you with your field guide needs. At Grand Staircase-Escalante NM visitor centers, we carry an assortment of books and field aids on the wonders of the region. Below is just a sample of what is available.



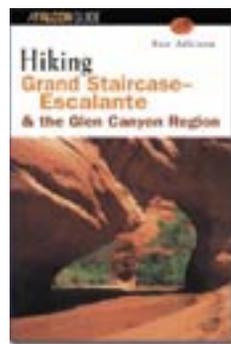
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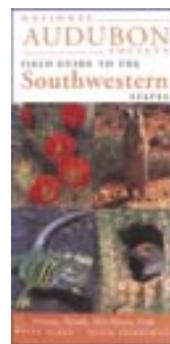
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MEMBERSHIPS ARE AVAILABLE STARTING AT \$25.00 PER YEAR; MEMBERS ARE VITAL TO OUR MISSION OF SUPPORTING PUBLIC LANDS ON THE COLORADO PLATEAU. IF YOU WOULD LIKE TO JOIN, INQUIRE AT A VISITOR CENTER OR SEE OUR WEB SITE FOR MORE INFORMATION AND A MEMBERSHIP FORM.

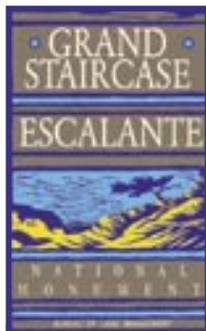
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Big Water Visitor Center
Kanab Visitor Center
Cannonville Visitor Center

One Coupon per Visitor • Expires Oct. 31, 2006

Visitor Information



Monument Headquarters
190 E. Center St.
Kanab, UT 84741
(435) 644-4300



Boulder Information Desk
at Anasazi State Park Visitor Center
Boulder, UT 84716
(435) 335-7382



Interagency Visitor Center
755 W. Main Street (Hwy 12)
Escalante, UT 84726
(435) 826-5499



GSENM Visitor Center
745 E. Hwy 89
Kanab, UT 84741
(435) 644-4680



GSENM Visitor Center
10 Center Street
Cannonville, UT 84718
(435) 826-5640



GSENM Visitor Center
100 Upper Revolution Way
Big Water, UT 84741
(435) 675-3200

Visitor center hours and days of operation vary depending on location and time of year. Some facilities are closed during the winter months. Call the numbers listed in the column to the left for information and current business hours.

Each visitor center provides area orientation and travel information while exhibits convey a different interpretive story at each facility:

- Escalante explains the critical role that science plays in understanding ecological and biological resources
- Kanab highlights geology and archaeology
- Cannonville shows the influence of the landscape on people
- Big Water focuses on paleontology

www.ut.blm.gov/monument

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